



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,236	08/27/2003	Kouichi Saitou	66097-013	3766

7590 08/11/2005

McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER

RUGGLES, JOHN S

ART UNIT	PAPER NUMBER
----------	--------------

1756

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,236

Applicant(s)

SAITOU ET AL.

Examiner

John Ruggles

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 9-14 and 16-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 15 is/are rejected.
- 7) ☒ Claim(s) 3-5, 7 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/27/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicants' election **without** traverse of Group I (claims 1-8 and 15) in the reply filed on 5/31/05 is acknowledged.

Claims 9-14 and 16-18 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions.

Oath/Declaration

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

In the Declaration and Power of Attorney filed on 2/24/04, the residence of the first inventor, Kouichi Saitou, remains the same as that originally filed on 8/27/03 (identified to be *Gifu-ken*, Japan), rather than Anpachi-gun, Japan (as stated by Applicants' Request for Corrected Filing Receipt filed on 2/24/04).

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "1" and "11" have both been used to designate the same top left pattern region of mask 20 in Figure 2A. Also for mask 20 in Figure 2A, "2" and "12" both refer to the same top right pattern region, "3" and "13" both refer to the same bottom left pattern region, and

Art Unit: 1756

"4" and "14" both refer to the same bottom right pattern region. For the mask 30 shown in Figure 2B, "5" and "15" both refer to the same top left pattern region, "6" and "16" both refer to the same top right pattern region, "7" and "17" both refer to the same bottom left pattern region, and "8" and "18" both refer to the same bottom right pattern region.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The abstract of the disclosure is objected to because the word --are-- has been misspelled at the end of line 7. Correction is required. See MPEP § 608.01(b).

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms, which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: (1) at page 2 lines 4-5, it is suggested that "when more than one photolithography step are

Art Unit: 1756

performed” be changed to either (a) --when more than one photolithography step are is performed-- or (b) --when two or more than one photolithography steps are performed--; (2) at page 5 line 29, “photomasks 20” (plural) must be corrected to --photomask[[s]] 20-- (singular); and (3) at page 6 lines 15-17 and 25-27, it is unclear whether photomasks 20 and 30 are or are not linearly moved along a horizontal plane. Note that due to the number of errors, those listed here are merely examples of the corrections needed and do not represent an exhaustive list thereof.

Appropriate correction is required. An amendment filed making all appropriate corrections must be accompanied by a statement that the amendment contains no new matter and also by a brief description specifically pointing out which portion of the original specification provides support for each of these corrections.

Claim Objections

Claims 3-5 and 7-8 are objected to because of the following informalities: in claim 3 line 2, “mask patters” should be corrected to --mask patterns--. Claims 4-5 and 7-8 depend on claim 3. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1756

Claim 2 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2 lines 2-3, the phrase “the photomasks” (plural) lacks proper antecedent basis and causes confusion about whether (a) plural photomasks are actually needed for the photolithography steps or (b) the same singular photomask according to claim 1 (on which claim 2 depends) is used and Applicants intended instead to recite --the mask patterns-- in accordance with the antecedent basis for this latter phrase at lines 1-2 of claim 2. For the purpose of this Office action and in order to advance the prosecution of this application, “the photomasks” in claim 2 lines 2-3 has been interpreted to mean --the mask patterns--, in accordance with (b) above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Chiang (US Patent 4,343,877).

Chiang teaches a photomask or mask for use in a plurality of photolithography steps performed in plural layers to manufacture a semiconductor device (abstract, col. 3 lines 48-50). This mask has multiple square adjacent mask patterns, as shown in Figure 1 (col. 7 lines 62-65,

Art Unit: 1756

each of which appears to have the same width and length, and each of which occupies the same area on the mask, instant claims 3-5). Figure 2 shows an enlarged view of 4 square adjacent mask patterns, each of which has one or more information mark locations near a corner thereof (abstract, col. 7 lines 66-68). In Figure 1, one of the mask pattern areas 13 includes individual squares 19 to form bonding pads in a metal layer on a semiconductor wafer (col. 8 lines 35-41). The individual mask pattern areas 13 on the mask are oriented parallel to the straight edge or major flat at the bottom edge of the semiconductor wafer, as shown in Figure 1 (col. 8 lines 61-68, which is understood to mean that the mask is oriented in substantially the same direction during sequential and successive imaging of the various layers on the wafer, instant claims 1 and 2). Figure 2 shows an alignment key or feature (target mark) in the bottom left hand corner of each mask pattern on the mask to form a corresponding alignment feature (target mark or pattern) for each chip on the wafer (col. 9 lines 8-10, instant claims 7, 8, and 15). Some mask patterns on the mask are mainly configured to form various types of patterned lines (e.g., wirings, etc.) for a semiconductor device (e.g., M11, etc. in Figure 8, col. 15 lines 27-35), while other mask patterns on the mask are mainly configured to form via or connection holes for the semiconductor device (e.g., M12, etc. in Figure 8, col. 15 lines 47-56, instant claim 6).

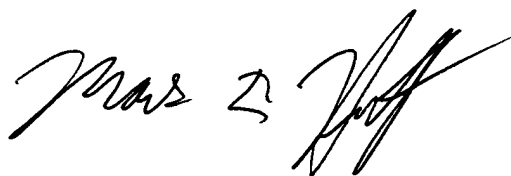
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Ruggles whose telephone number is 571-272-1390. The examiner can normally be reached on Monday-Thursday and alternate Fridays.

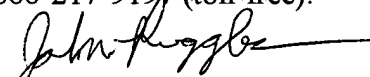
Art Unit: 1756

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER



John Ruggles
Examiner
Art Unit 1756

MARK F. HUFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700